

DIVISION OF FISH AND WILDLIFE PROGRAMS

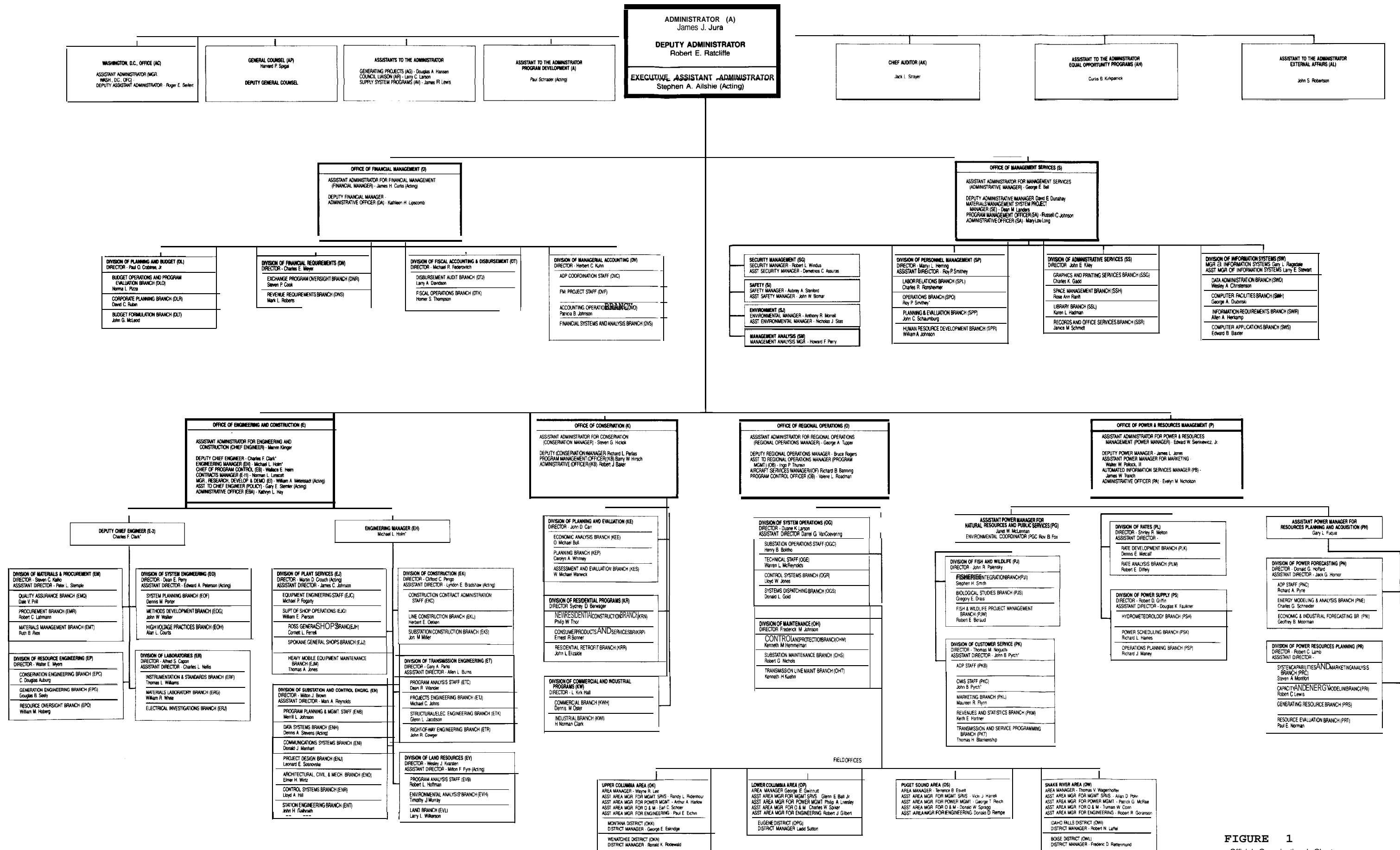
1986

DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
OFFICE OF POWER AND RESOURCES MANAGEMENT

December 1986

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* Dual Assignment

FIGURE 1
Official Organizational Chart
U.S. DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
AUGUST 15, 1986

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BACKGROUND

In 1976, BPA Administrator Don Hodel responded to concerns over the region's declining fish runs by signing a Memorandum of Understanding (MOU). The MOU drew together some of the major parties concerned with the Columbia Basin's anadromous (migratory) fish including the chairmen of the Confederated Tribes of the Umatilla, Warm Springs, Yakima, and Nez Perce Indian Reservations and the governors of Oregon, Washington, and Idaho. Under the MOU, BPA agreed to finance "a regional program of Columbia River Fisheries Restoration."

By 1978, BPA had started its first fishery projects. The Office of Power and Resources Management appointed a Fish and Wildlife Program Manager to lead the program. Staff members also worked to incorporate fishery considerations in power planning.

In December of 1980, Congress passed the Pacific Northwest Electric Power Planning and Conservation Act (Act). The Act gave BPA part of the responsibility to protect and enhance fish and wildlife affected by Columbia River Basin hydroelectric dams.

The Act also required the Northwest Power Planning Council to pull together recommendations from the region's fish and wildlife agencies and Indian tribes in order to develop a comprehensive Fish and Wildlife Program (Program). The Council issued the first Program in November 1982. The Program was modified in 1984.

The Act directed BPA to consider the Program when carrying out its fish and wildlife responsibilities. Of the Program's 250 measures, nearly half are assigned to BPA. In anticipation of this increased workload, BPA elevated the Fisheries and Wildlife Program Unit to the Division of Fish and Wildlife in June 1982.

Six years have passed since the Act became law. In that **time**, BPA has made significant strides toward meeting its fish and wildlife responsibilities. It has invested approximately \$84 million in habitat improvements, hatchery construction, and related projects. The Water Budget--a block of water used, not for power production, but to hasten spring fish migrations--costs BPA on average another \$54 to \$74 million annually in lost revenues. In addition, BPA is repaying the Federal Treasury \$500 million for its share of fish ladders and hatcheries already in place.

ORGANIZATION

The **DIVISION OF FISH AND WILDLIFE** develops, coordinates and manages BPA's effort to protect, mitigate and enhance fish and wildlife resources affected by development and operation of hydroelectric power generation on the Columbia River and its tributaries. The Division implements those portions of the Columbia River Basin Fish and Wildlife Program (Program) which are BPA's responsibility.

The **PROJECT MANAGEMENT BRANCH** implements, manages and coordinates major fish and wildlife projects. Major projects include those requiring significant BPA internal and external coordination over an extended period of **time**, such as complex interagency projects. The Project Management Branch receives technical support from the Biological Studies Branch.

The **BIOLOGICAL STUDIES BRANCH** staff includes biologists with particular skill in areas of fish health, resident (nonmigratory) fish, wildlife, fish passage, as well as natural and artificial production of fish. Branch staff includes "Program Area Managers" who are responsible for defining measures in the Council's Program into specific projects. They secure approval of those projects from members of the scientific community and coordinate project activities with affected state and Federal fish and wildlife agencies, Indian tribes, land management agencies, and **utilities**. Other staff members are responsible for developing the plans and evaluations called for in the Program. The Biological Studies Branch is divided into two sections: Biological Evaluation and Production Evaluation.

The **FISHERIES INTEGRATION BRANCH** develops the policies needed to carry out BPA's fish and wildlife responsibilities under the Northwest Power Planning Act. Staff members review and analyze planned hydroelectric operations for possible fish and wildlife impacts and make recommendations to ensure equitable treatment of fish and wildlife. The Branch oversees the Water Budget, spills, and research and development contracts directed at solving fish passage problems at hydroelectric dams.

BONNEVILLE POWER ADMINISTRATION

Office of Power and Resources Management
Division of Fish & Wildlife

DIRECTOR'S OFFICE (PJ)

John R. Palensky, Director
Secretary (230-4981)
Barb Ballew, Administrative Technician (230-7464)

FISHERIES INTEGRATION BRANCH (PJI)

Stephen Smith, Chief
Secretary (230-5549)
Stan Detering, Industry Economist (230-4979)
John Ferguson, Fishery Biologist (230-5206)
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Dale Johnson, Fishery Biologist (230-5209)
Frank Shrier, Fishery Biologist (230-5624)
Christine Stoffels, Computer Specialist (230-7465)

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Greg Drais, Chief
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BIOLOGICAL EVALUATION SECTION (PJSD)

Mark Schneider, Section Chief (230-5384)
Jim Meyer, Wildlife Biologist (230-5239)
Fred Holm, Fish Biologist (230-5200)
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Jeff Gislason, Fishery Biologist (230-7463)
Mary Mahaffy, Wildlife Biologist (230-5495)

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Larry Everson, Fishery Biologist (230-5199)
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Kathy Anderson, Fishery Biologist (230-7579)
Terry Harty, Procurement Assistant (230-7578)

FISH & WILDLIFE PROJECT MANAGEMENT BRANCH (PJW)

Robert Beraud, Chief
Secretary (230-5549)
Sharon Blair, Public Affairs Specialist (230-4982)
Carolyn Bohan, Project Manager (230-5732)
Tom Clune, Senior Project Manager (230-5204)
Jay Marcotte, Project Manager (230-5744)
Lee Miller, Program Analyst (230-5210)

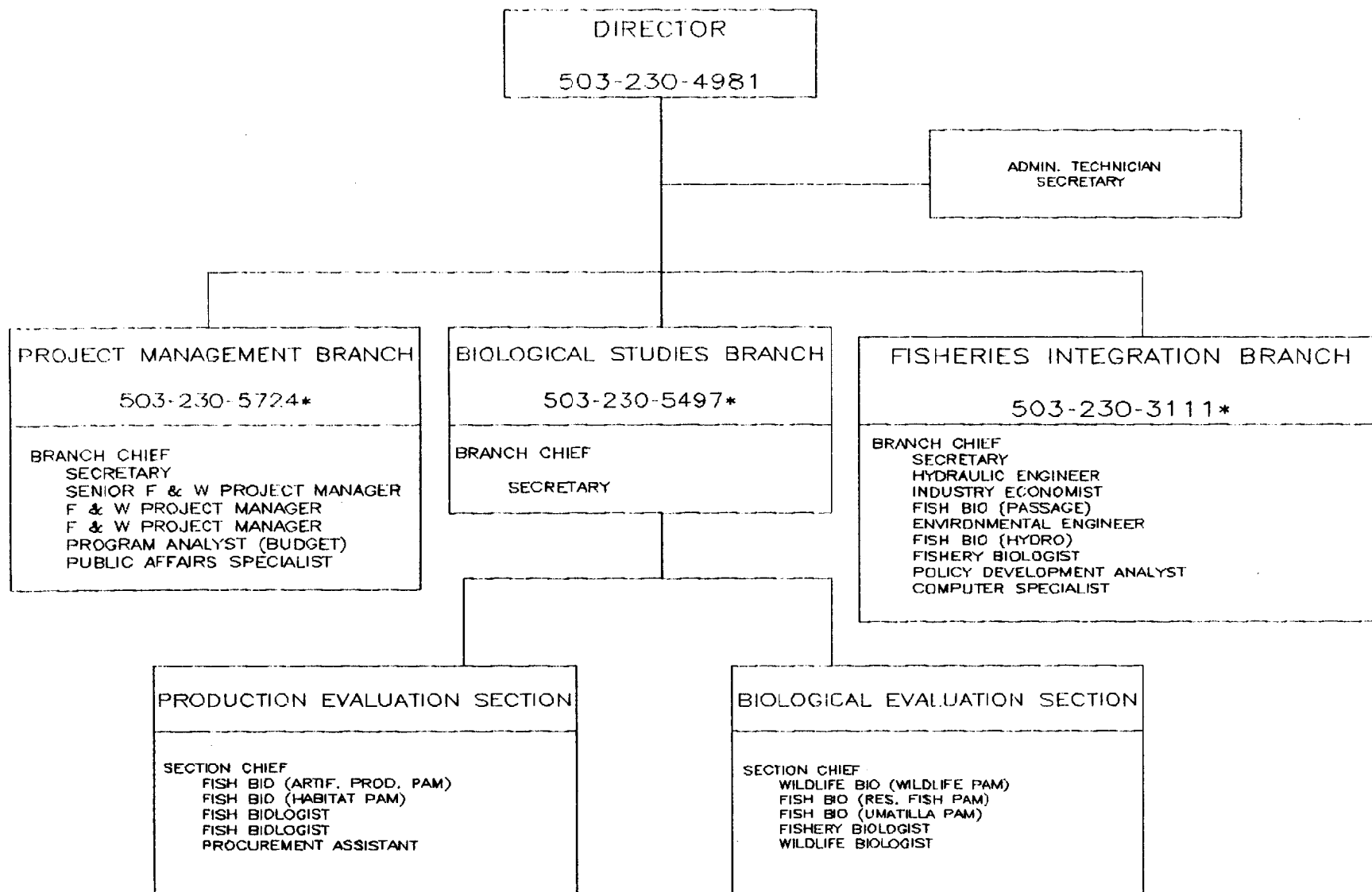


FIGURE 2
Organizational Chart: Division of Fish and Wildlife

BPA DIVISION OF FISH & WILDLIFE STAFFING LEVELS

FY 1978-1986

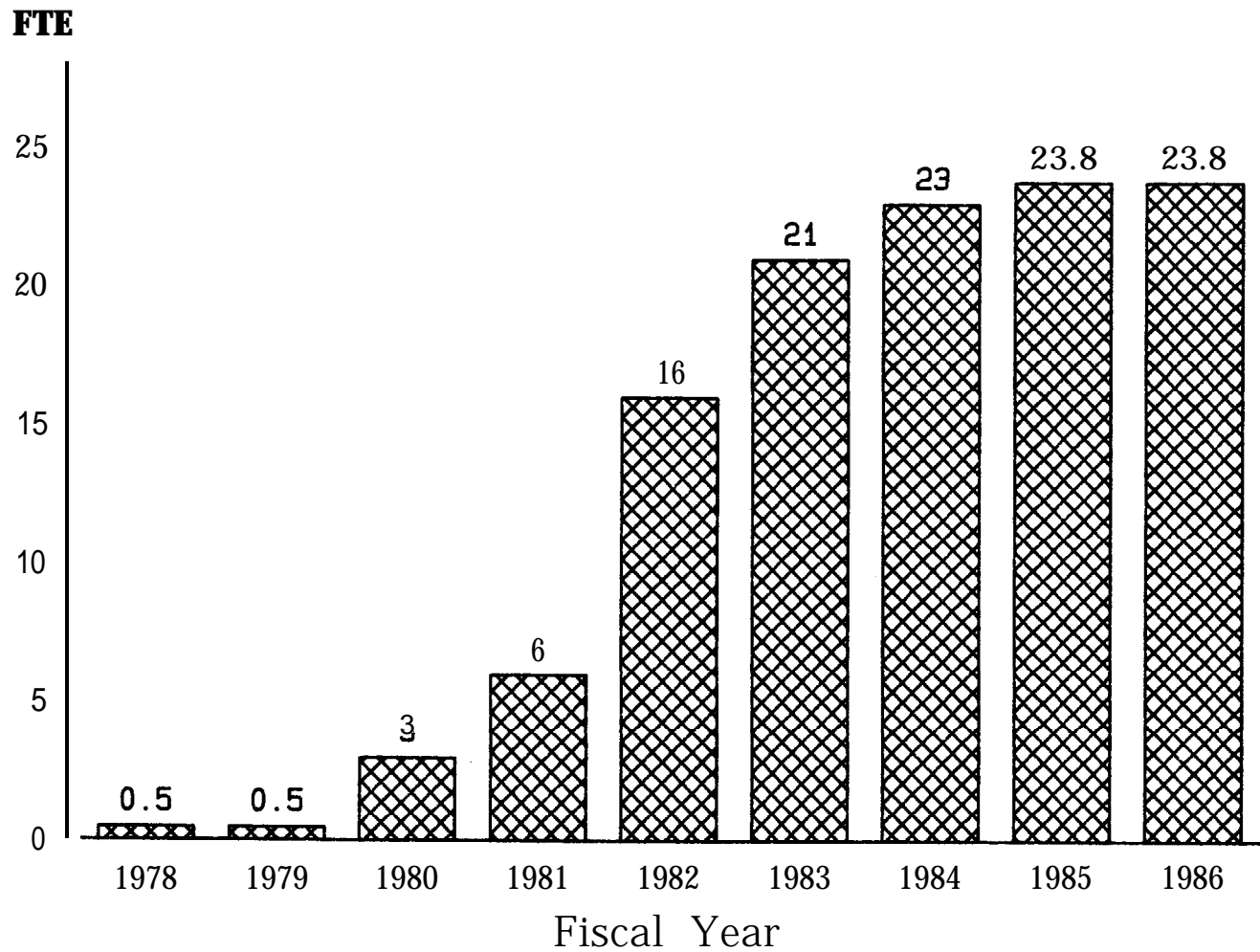


FIGURE 3

MAJOR FUNCTIONS

EQUITABLE TREATMENT

Dams gave the people of the Pacific Northwest cheap electricity. But those cheap rates were subsidized by losses of migratory fish. In 1980, Congress decided that those who used the electricity should pay for the damage caused to fish by the power dams and for a major regional effort - the Program - to make up for those losses. Congress also required that the regional power system be operated in a manner that assures "equitable treatment" for fish and wildlife. Equitable treatment may mean that BPA's ratepayers will pay for new programs or projects to lessen hydroelectric impacts. It may also mean that BPA will have to use water energy to help fish rather than generate power for sale to homes and industries. It could also mean choosing some more expensive power projects over less expensive ones to avoid further harm to fish and wildlife.

PROJECT IMPLEMENTATION

BPA's projects make up for losses caused by the development and operation of the Columbia River hydroelectric dams and protect fish and wildlife from future harm. Projects are drawn from the measures outlined in the Program. To accomplish the tasks outlined in each of the Program's measures, staff members work closely with representatives from the scientific community to translate Program measures into specific projects and to define project objectives clearly. BPA managers examine Program measures and alternatives looking for the most cost-effective solutions. BPA then solicits proposals from tribes, agencies, operators, and private consultants throughout the Pacific Northwest.

PROJECT MANAGEMENT

As technical representatives for BPA's Contracting Office, Division staff monitor project work throughout the life of the project. Project activities are coordinated with other agencies' plans so that the Division's efforts will be consistent with other efforts throughout the Columbia River Basin. The final project reports are published or presented at workshops in order to share information, discoveries and accomplishments, and to make best use of research results. This information exchange can help prevent duplication and provide a basis for further enhancement efforts throughout the region.

WATER BUDGET

For the past fifty years, the Columbia River's water has been managed to meet people's need for energy. But changing the natural system of flows has endangered the survival of young fish. To help young fish move downstream more quickly and to increase their chance of survival, the Program set aside a block of water known as the "Water Budget". BPA funds two Water Budget Managers, one representing regional fisheries agencies and the other representing

Columbia River Indian tribes. The Water Budget Managers work with power managers from various Federal agencies to "shape" water flows between April 15 and June 15 when the number of young fish migrating downstream is at its peak.

MITIGATION ACCOUNTS POLICY

As BPA carries out its obligations under the Act and implements the Fish and Wildlife Program, the Division of Fish and Wildlife is determining how much of the total loss of Columbia Basin fish and wildlife has been caused by Federal hydroelectric dams. The Division consults with regional fish and wildlife agencies, Tribes and project operators. It works with them to develop methods of estimating hydroelectric impacts on fish and wildlife, to define the extent of BPA's obligation to mitigate losses, and to develop procedures for monitoring and accounting for progress resulting from BPA actions. This policy will help BPA fulfill its fish and wildlife responsibilities while winning best value for the ratepayer's dollars.

FISH AND WILDLIFE BUDGETS

The Division of Fish and Wildlife's activities are not supported by taxes or Congressional appropriations. Fish and wildlife expenditures are funded through revenues from power sales, as part of the cost of running the Federal Columbia River Power System (FCRPS). The Federal Columbia River Transmission System Act of 1974 made BPA a "self-financing" agency and gave it the authority to borrow Treasury funds to finance major capital construction. BPA must secure Congressional approval to build facilities with a life expectancy of more than 15 years and costing more than \$1 million to construct.

Budget approval is a 2-year process. For example, planning for FY 1987 expenditures began in 1985. Estimates are presented to the Department of Energy and the Office of Management and Budget for review. Budget figures and program plans are refined to incorporate their comments. Subsequently a final budget is presented to Congress for its approval. Parties interested in and affected by the fish and wildlife program may also scrutinize Division funding levels in BPA's electric power ratesetting process.

In 1978, the Division of Fish and Wildlife spent \$0.5 million on fishery research. In FY 1983, the first year after enactment of the Program, the Division funded 93 contracts totalling \$9 million. In FY 1984, the Division's budget doubled to \$20 million to fund a total of 141 new and ongoing projects. During FY 1986, BPA funded a total of 112 contracts for \$25.5 million.

THE BUDGET CYCLE

Year 1				Year 2				Year 3			
Oct.	Jan.	Apr.	Jul.	Oct.	Jan.	Apr.	Jul.	Oct.	Jan.	Apr.	Jul.
BPA BUDGET DEVELOPMENT				BPA & DOE OMB & CONGRESSIONAL REVIEWS				BUDGET EXECUTION			
				HEARINGS							

FIGURE 4

BPA DIVISION OF FISH & WILDLIFE BUDGET FY 1978-1986

Budget (millions \$)

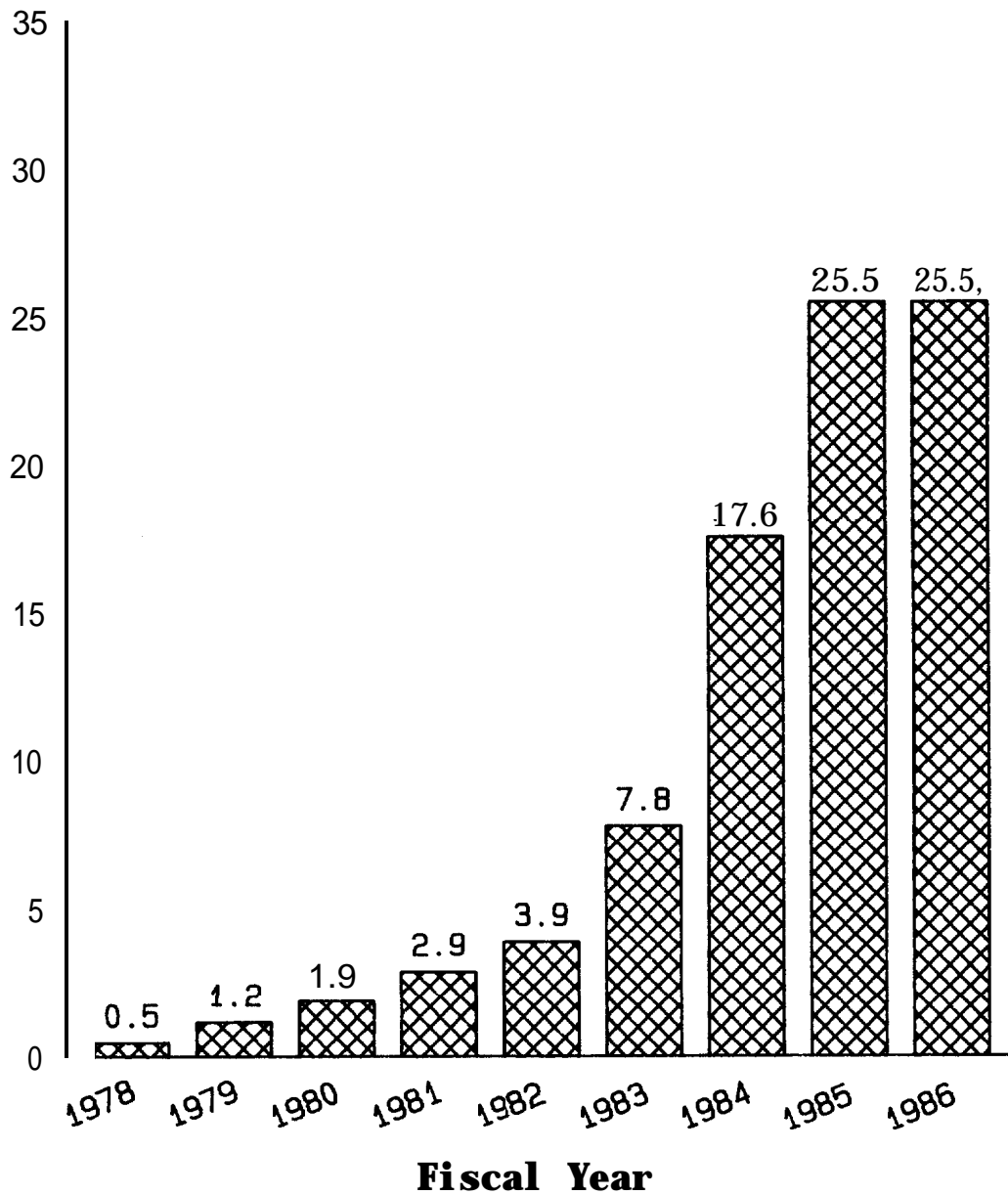


FIGURE 5

IMPLEMENTATION PROCESS

The majority of BPA's fish and wildlife projects are based on measures listed in the Council's Program. To prepare the Program, the Council first calls for recommendations from the fish and wildlife agencies and Tribes. Power producers and land management agencies, such as the public utilities and Forest Service can also submit recommendations. The Council shall examines each of these proposals and makes choices between conflicting ones. It also asks for comments from all citizens and interested groups in the Pacific Northwest. However, if the Council ends up rejecting any proposals from the fish agencies and tribes, it must explain why in writing.

Once the Council issues a Program, it is up to BPA and other Federal agencies, such as the Corps of Engineers and Federal Energy Regulatory Commission, to carry it out.

Many of the measures, however, are still just wide-ranging ideas. Although they have been through an extensive public review process, they typically lack sufficient detail for action. So BPA asks the utilities, tribes, and fish and wildlife agencies to help flesh out measures assigned to it and to rank their priority.

BPA then implements each of its projects by paying others - often the agencies that recommended the project - to do the work. Throughout the life of the project, BPA coordinates activities with affected fish and wildlife agencies, tribes and other Federal operating and regulating agencies. BPA also makes plans to monitor projects, once they are completed, in order to measure the benefits of the project and make sure the work was cost-effective.

PROJECT EXPENDITURES

In 1986, the Division spent 84 percent of its budget on anadromous fish (salmon and steelhead). Four percent went for wildlife projects and another 9.6 percent was spent on resident fish. The remainder was spent on assessing watersheds to see which areas should be protected from future hydroelectric development and the operation and maintenance of fish and wildlife projects.

Salmon and steelhead dollars funded:

- 14 projects to protect young fish (smolts) as they move downstream. Several projects tracked **smolts** during the critical migration period (April 15 to June 15) to time "Water Budget" releases properly. The Water Budget shortens the time it takes for young fish to travel to the ocean. BPA contractors examined the stress caused by migrating through reservoirs and passing through dam structures. Others determined the number of salmon lost to predator fish thriving in dam-created reservoirs. Project biologists also tagged fish and collected important data at strategic points during the salmon's journey.
- 19 projects to correct manmade passage problems for fish, as in the Yakima River. BPA dollars were used to rebuild or install new fish screens and ladders. Adult fish use ladders to swim up and over the dams. Screens steer young fish clear of irrigation diversion canals.
- 33 projects to improve spawning and rearing sites for wild fish. Hydroelectric dams eliminated much of the wild salmon's habitat in the Columbia River Basin. Rehabilitating tributaries makes up for these losses. For example, where waterfalls prevented adults fish from moving into historic spawning grounds, contractors designed fish passage. Where grazing and erosion have denuded streambanks, workers planted willows and installed other soil-saving measures. Other studies looked for new areas that could be made accessible to salmon and steelhead.
- 21 projects to improve the quality of hatchery-reared fish. Hatcheries were built to replace fish habitat lost to hydroelectric development. Studies measured how many fish hatcheries contribute to the Columbia River fishery. Researchers sought answers to questions on nutrition, stress, disease control, and the quality and hardiness of hatchery-produced fish. Fish managers planned strategies to coincide hatchery releases with the timing of wild smolt movements.

Wildlife dollars funded thirteen projects **to** measure the effects of hydroelectric development on wildlife and to improve wildlife habitat near Columbia River dams.

Another 12 projects investigated the impacts of hydro dams on white sturgeon in the Columbia River Basin, and game fish in upriver reservoirs of Idaho and western Montana.

Division staff judge all projects on their ability to produce results. In many cases, dollars spent on research or habitat enhancement in one state will work to boost fish runs in another. But no matter where the project took place, the dollars spent in 1986 will eventually benefit the entire region.

BPA Division of Fish & Wildlife
Number of Projects
FY 1978-1986

New Projects Ongoing Projects



Number of Projects

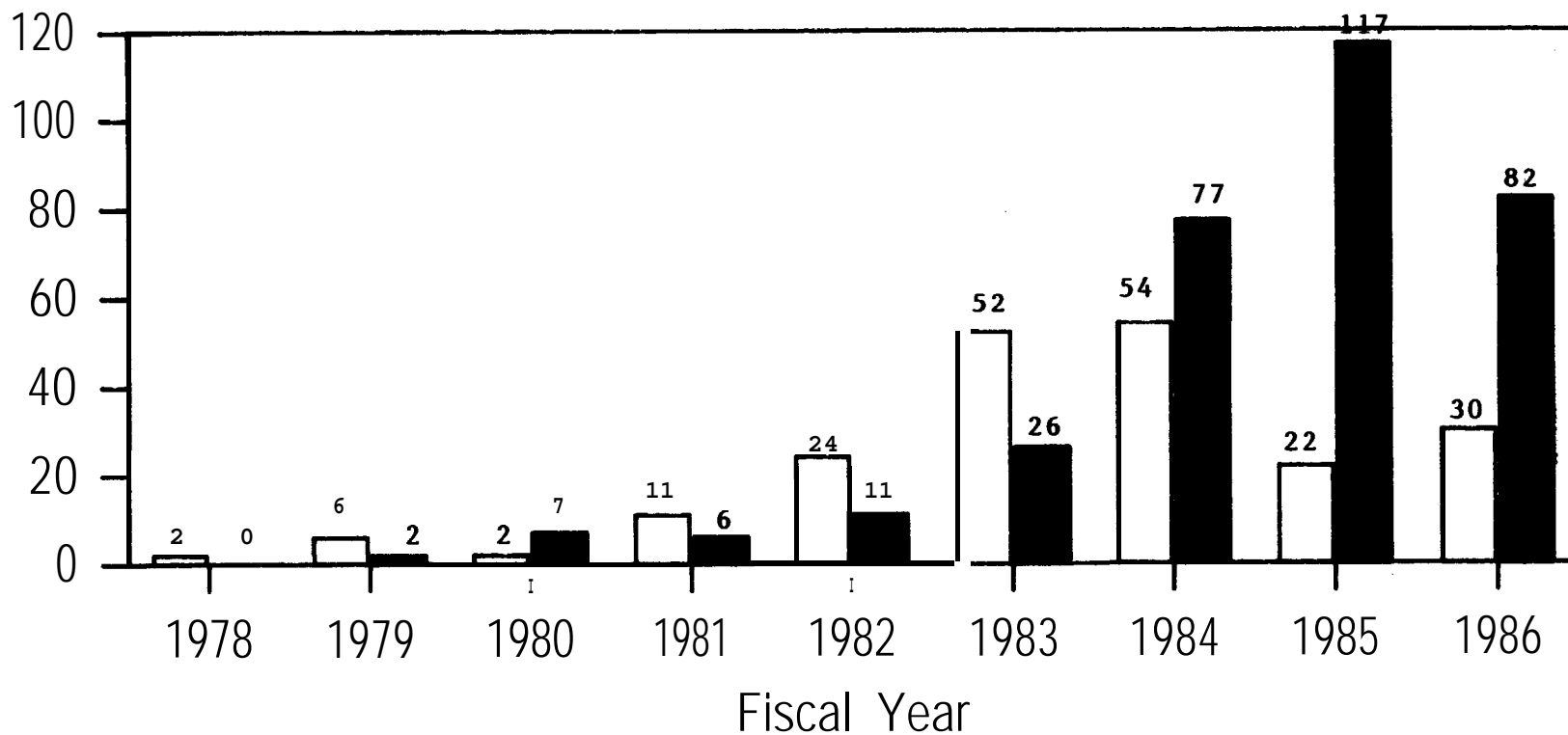


FIGURE 6

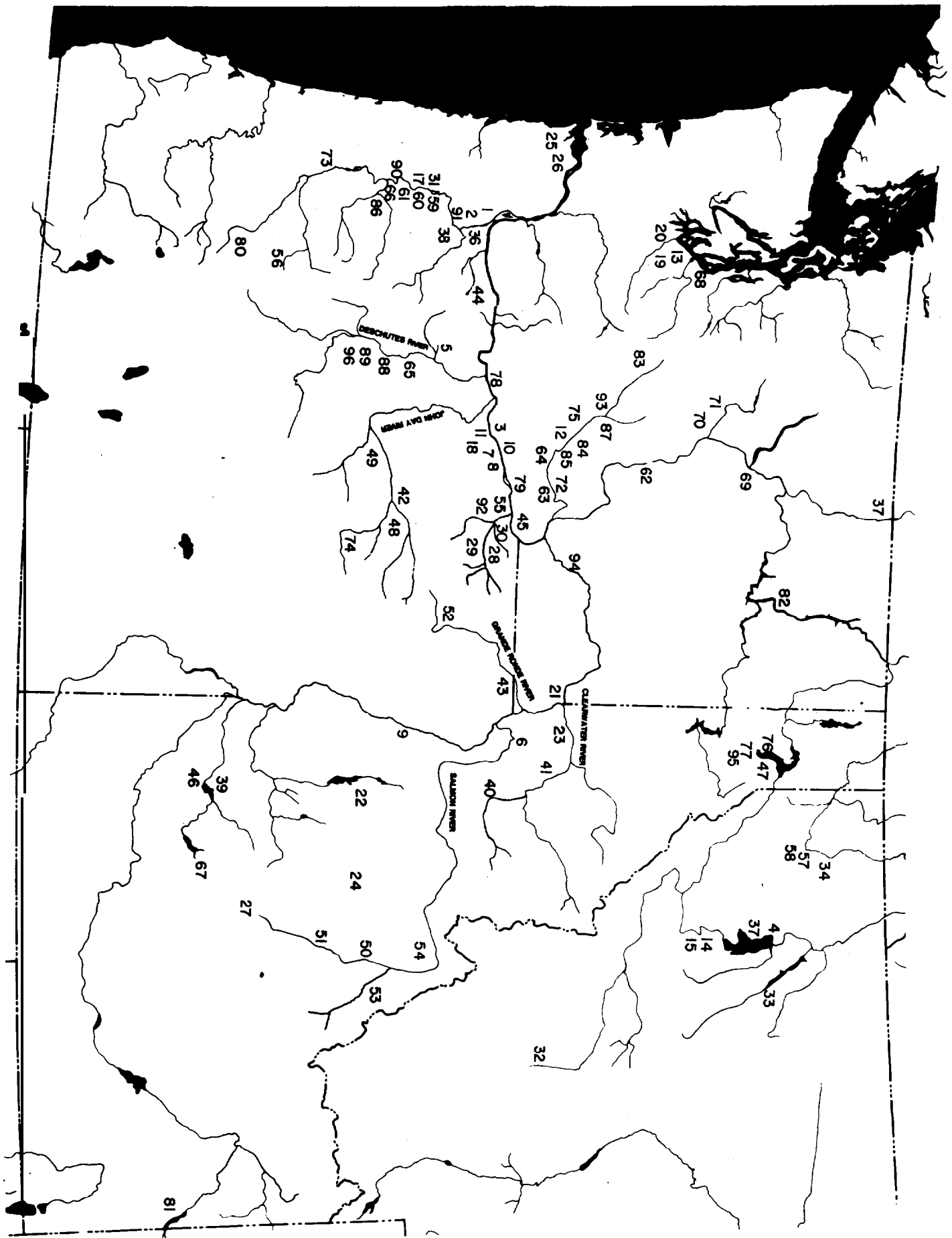


FIGURE 7. Location of FY 1986 Division of Fish 6 Wildlife Projects.
 NOTE: Most map locations show administrative sites. Actual study sites may differ from administrative sites or vary seasonally.

FY 1986 FISH AND WILDLIFE PROJECTS

Map No.	Project Number	Project Manager	Performing Agency	Project Title
1	79-2	Ron Morinaka	NMFS Portland, OR	An Evaluation of the Contribution of Chinook Salmon Reared at Columbia River Hatcheries to the Pacific Salmon Fisheries
2	80-1	John Ferguson	PMFC Portland, OR	Smolt Monitoring Program
3	81-1	Tom Vogel	NMFS CZES Seattle, WA	Flow and Spill Requirements for Juvenile Fall and Summer Chinook Salmon in John Day Reservoir
4	81-105	Tom Vogel	MDFWP Kalispell, MT	Effects of Operation of Kerr and Hungry Horse Dam on Reproductive Success of Kokanee in the Flathead System
5	81-108	Jeff Gislason	Warm Springs Tribe Terry Luther Madras, OR	Establishment of Baseline Information for the Warm Springs Indian Reservation
6	82-1	Tom Vogel	Nez Perce Tribe Lapwai, ID	A Biological and Physical Inventory of the Streams Within the Nez Perce Reservation
7	82-2	Tom Vogel	NMFS CZES Seattle, WA	Use of a Fish Transportation Barge for Increasing Returns of Steelhead Trout Imprinted for Homing in the Yakima River
8	82-3	Fred Holm	USFWS NFRS Cook, WA	Feeding Activity, Rate Consumption, Daily Ration, and Prey Selection of Major Predators in the John Day Reservoir Pool
9	82-7	John Ferguson	NMFS CZES Seattle, WA	Snake River Fall Chinook Brood Program
10	82-12	Fred Holm	ODFW Clackamas, OR	Estimate Abundance and Growth Characteristics of Squawfish and Walleye in John Day Reservoir and Tailrace

Map No.	Project Number	Project Manager	Performing Agency	Project Title
11	82-13	John Ferguson	PMFC Seattle, WA	Coded Wire Tag Sampling
12	82-16	Tom Vogel	Yakima Tribe Toppenish, WA	Natural Production Assessment and Rehabilitation of Spring Chinook
13	82-21	Ron Morinaka	USFWS NFRF Seattle, WA	Control & Development of Hatchery Practices & Antiviral Drugs to IHN Virus in Sockeye, Chinook Salmon, and Steelhead Trout
14	83-1	Tom Vogel	Salish/ Kootenai Tribe Pablo, MT	Lower Flathead River Fisheries Study
15	83-2	Jim Meyer	Salish/ Kootenai Tribe Pablo, MT	Impact of Water Levels on Canada Geese
16	83-7	Larry Everson	IDFG Boise, ID	Idaho Habitat Evaluation (Offsite Mitigation Record)
17	83-312	Gerry Bouck	OSU Corvallis, OR	Epidemiology and Control of Infectious Disease of Salmonids in the Columbia River Basin
18	83-313	Ron Morinaka	USFWS NFRF Cook, WA	Pen Rearing and Imprinting of Fall Chinook Salmon
19	83-316	Fred Holm	UW	Columbia River White Sturgeon Enhancement
20	83-319	John Ferguson	NMFS Seattle, WA	Biological Feasibility of a New Fish Tagging System
21	83-323	Tom Vogel	IDFG Boise, ID	Smolt Condition and Timing of Arrival at Lower Granite Reservoir
22	83-341	Dale Johnson	ODFW	Hood River Passage Portland, OR.
23	83-350	Tom Vogel	Nez Perce Lapwai, ID	Nez Perce Reservation Propagation Facilities

Map No.	Project Number_	Project Manager	Performing Agency	Project Title
24	83-359	Larry Everson	Shoshone/ Bannock Tribe Fort Hall, ID	Rehabilitate and Protect Critical Anadromous Salmonids Spawning and Rearing Habitat in Bear Valley Creek
25	83-363	Ron Morinaka	OSU Seafoods Lab Astoria, OR	Development for Rations for the Enhanced Survival of Salmon
26	83-364	Tom Clune	Clatsop Co. Fisheries Astoria, OR	Evaluation of Low-Cost Salmon Production Facilities
27	83-415	Larry Everson	USFS Sawtooth NF Twin Falls, ID	Alturas Lake Creek Flow Augmentation
28	83-434	Tom Vogel	COE Walla Walla, WA	Lower Umatilla River Channel Modifications to Allow Restoration of Upriver Bright Fall Chinook and Enhance Summer Steelhead Production in the Umatilla River Basin
29	83-435	Tom Vogel	Umatilla Tribe Pendleton, OR	Umatilla Release, Collection, and Holding Facilities
30	83-436	Tom Vogel	BR Boise, ID	Modification of Three Mile Dam to Improve Adult Salmon and Steelhead Passage in the Lower Reaches of the Umatilla River
31	83-451	Gerry Bouck	osu Corvallis, OR	Stock ID of Columbia River Chinook and Steelhead
32	83-463	Fred Holm	MDFWP Missoula, MT	Evaluation of Water Releases at Painted Rocks Reservoir
33	83-465	John Ferguson	MDFWP Kalispell, MT	Quantification of Hungry Horse Reservoir Levels Needed to Maintain or Enhance Reservoir Fisheries

Map No.	Project Number	Project Manager	Performing Agency	Project Title
34	83-467	John Ferguson	MDFWP Kalispell, MT	Quantification of Libby Reservoir Levels Needed to Maintain or Enhance Reservoir Fisheries
35	83-477	Larry Everson	IEC Beak Richmond, B.C.	Enloe Dam Passage
36	83-491	John Ferguson	CRITFC Portland, OR	Water Budget Management
37	83-498	Jim Meyer	MDFWP Helena, MT	Impacts of Water Level Fluctuations on Canada Geese; Flathead River Valley, Montana
38	83-536	John Ferguson	PMFC Portland, OR	Water Budget Management
39	84-2	Ron Morinaka	IDFG Boise, ID	Protection of Wild Steelhead In the Upper Snake River, Idaho
40	84-5	Larry Everson	USFS Nez Perce NF Grangeville, ID	Red River/Crooked River Fish Passage Habitat Improvements
41	84-6	Larry Everson	USFS Clearwater NF Orofino, ID	Clearwater River Habitat Enhancement (Lolo, Crooked Fork, & El Dorado Creeks)
42	84-8	Larry Everson	USFS Umatilla NF John Day, OR	John Day River Habitat Enhancement (Clear, Granite, North Fork)
43	84-9	Kathy Anderson	USFS Wallowa-Whitman NF Baker, OR	Grande Ronde Habitat Enhancement (Joseph, Peavine, Elk, and Chesnimnus Creeks)
44	84-11	Kathy Anderson	USFS Mt. Hood NF Gresham, OR	Habitat Enhancement: Collawash Falls, Fish & Lake Branch Creeks
45	84-14	John Ferguson	NMFS Seattle, WA	Smolt Monitoring at Federal Hydroelectric facilities

Map No.	Project Number	Project Manager	Performing Agency	Project Title
46	84-17	John Ferguson	IDFG Boise, ID	Freeze Branding of Salmon and Steelhead for Water Budget Studies--Idaho
47	84-19	Tom Clune	IDFG Boise, ID	Cabinet Gorge Kokanee Hatchery - Lake Pend Oreille, Idaho
48	84-21	Larry Everson	ODFW John Day, OR	John Day River Habitat Enhancement (Main Stem, Middle Fork)
49	84-22	Larry Everson	USFS Malheur NF John Day, OR	John Day River Habitat Enhancement (East Fork Beech Creek, Canyon, Big Boulder Granite Boulder . Creeks)
50	84-23	Kathy Anderson	USFS Salmon NF Salmon, ID	Camas Creek Habitat Enhancement
51	84-24	Larry Everson	USFS Region IV Ogden, UT	Marsh, Elk Creeks and Upper Salmon and Middle Fork Salmon River, Idaho Habitat Enhancement
52	84-25	Kathy Anderson	ODFW Portland, OR	Grande Ronde River Habitat Enhancement
53	84-28	Larry Everson	Ott Water Engineers Bellevue, WA	Lemhi River Habitat Rehabilitation - Idaho
54	84-29	Larry Everson	Bechtel Corp. San Francisco, CA	Panther Creek Habitat Rehabilitation - Idaho
55	84-33	Tom Vogel	COE Walla Walla, WA	Umatilla River Summer Steelhead Hatchery
56	84-36	Jim Meyer	ODFW Portland, OR	Wildlife and Wildlife Habitat Loss Assessment for the Willamette River Projects
57	84-38	Jim Meyer	USFS Region I Libby, MT	Ural-Tweed Bighorn Sheep - Wildlife Mitigation Project

Map No.	Project Number	Project Manager	Performing Agency	Project Title
58	84-39	Jim Meyer	MDFWP Kalispell, MT	Ural-Tweed Bighorn Sheep - Wildlife Mitigation Project
59	84-43	Gerry Bouck	OSU Corvallis, OR	Development of a Subunit Vaccine Against Infectious Hematopoietic Necrosis (IHN) Virus
60	84-45	Gerry Bouck	USFWS Longview, WA osu Corvallis, OR	Influence of Nutrition on the Immune Response in Hatchery Reared Salmonids (Ceratomyxosis, Kidney Disease and Furunculosis)
61	84-46	Gerry Bouck	OSU Corvallis, OR	Evaluate Vaccines for Bacterial Kidney Disease in Salmon
62	84-54	John Ferguson	Chelan Co. PUD Wenatchee, WA	Juvenile Salmonid Monitoring at Rock Island Dam Bypass Sampler
63	84-57	Tom Clune	BR Boise, ID	Wapato Screen & Ladder Construction; Yakima Basin, WA
64	84-58	Tom Clune	BR Boise, ID	Toppenish Creek/Satus Unit Screens & Ladder Construction; Yakima Basin, WA
65	84-62	Dale Johnson	ODFW Portland, OR	Trout Creek Riparian Restoration
66	84-945	Gerry Bouck	OSU Corvallis, OR	Effects of Vitamin Nutrition on the Immune Response System of Hatchery-Reared Salmonids
67	85-1	Jim Meyer	IDFG Boise, ID	Wildlife and Wildlife Habitat Loss Assessments for the Anderson Ranch, Black Canyon, and Boise Diversion Hydroelectric Facilities in Idaho
68	85-35	John Ferguson	NMFS CZES Seattle, WA	Juvenile Radio Tag Studies
69	85-38	Fred Holm	Colville Tribe Nespelem, WA	Preliminary Design of Colville Hatchery
70	85-52	Tom Clune	Chelan Co. PUD Wenatchee, WA	Tumwater Falls Dam Passage

Map No.	Project Number	Project Manager	Performing Agency	Project Title
71	85-53	Tom Clune	Chelan Co. PUD Wenatchee, WA	Dryden Dam Passage
72	85-62	Tom Clune	Battelle Pacific NW Lab Portland, OR	Evaluation of the Effectiveness of the Sunnyside Fish Screens and Richland Canal
73	85-68	Ron Morinaka	ODFW Portland, OR	Willamette Spring Chinook Study Plan
74	85-71	Kathy Anderson	BLM Burns, OR	South Fork John Day River Passage Improvement: Mainstem & Izee Falls
75	85-85	Tom Clune	wsu Pullman, WA	Temporary Fish Passage on Toppenish Creek; Yakima Basin, Washington
76	85-339	Fred Holm	IDFG Boise, ID	Kokanee Stock Status in Lake Pend Oreille and Evaluation of Cabinet Gorge Hatchery
77	86-14	Jim Meyer	IDFG Sandpoint, ID	Cabinet Gorge Eagle Study
78	86-50	Fred Holm	ODFW Portland, OR	Evaluate Sturgeon Physical Habitat Requirements
79	86-60	John Ferguson	NMFS Portland, OR	Downstream Migrant Monitoring
80	86-64	Jim Meyer	ODFW Portland, OR	Willamette River Projects Wildlife Mitigation Plans
81	86-73	Jim Meyer	IDFG Boise, ID	Upper Snake River Projects Wildlife Mitigation Plan
82	86-74	Jim Meyer	WDG Olympia, WA	Grand Coulee Wildlife Mitigation Plan
83	86-75	Jeff Gislason	USFS Wenatchee NF Naches, WA	Little Naches River Passage
84	86-88	Tom Clune	BR Boise, ID	Satus Creek Screen/Ladder Construction

Map No.	Project Number	Project Manager	Performing Agency	Project Title
85	86-89	Tom Clune	BR Boise, ID	Upper Toppenish Ladder Construction
86	86-90	Kathy Anderson	Rex Timber Portland, OR	Little Fall Creek Fish Passage
87	86-91	Tom Clune	BR Boise, ID	Predesign for Yakima Basin Fish Passage
88	86-93	Dale Johnson	Buell & Assoc. Beaverton, OR	Trout Creek Benefit Cost
89	86-94	Dale Johnson	Clearwater Biostudies, Inc.	Trout Creek Benefit/Cost Analysis Photomosaics Refinement
90	86-96	Gerry Bouck	EPA Corvallis, OR	Facility Support for BKD Vaccine Test for Salmon
91	86-107	Kathy Anderson	Buell & Assoc. Beaverton, OR	Evaluation and Monitoring Workshop
92	86-111	Tom Vogel	Battelle Northwest Portland, OR	Umatilla River Basin Salmon and Steelhead Plan (84-10) Evaluation
93	86-112	Tom Clune	WDF Olympia, WA	Toppenish/Westside/Ellensburg Screen Fabrication
94	86-119	John Ferguson	WDF Olympia, WA	Freeze Branding Salmon and Steelhead
95	86-120	Tom Clune	IDFG Boise, ID	Engineering Evaluation of Cabinet Gorge Hatchery
96	86-121	Dale Johnson	Clearwater BioStudies, Inc Sherwood, OR	Trout Creek Enhancement - Implementation

Agency Key:

BLM	U.S. Bureau of Land Management
BR	U.S. Bureau of Reclamation
COE	U.S. Army Corps of Engineers
CRITFC	Columbia River Inter-Tribal Fish Commission
CZES	Coastal Zone and Estuarine Studies
IDFG	Idaho Department of Fish and Game
MDFWP	Montana Department of Fish, Wildlife, and Parks
NFRC	National Fishery Research Center
NMFS	National Marine Fisheries Service
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
OHSU	Oregon Health Sciences University
osu	Oregon State University
P M F C	Pacific Marine Fisheries Commission
PUD	Public Utility District
scs	U.S. Soil Conservation Service
SVID	Sunnyside Valley Irrigation District
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
uw	University of Washington
WDF	Washington Department of Fisheries
WDG	Washington Department of Game
WSEO	Washington State Energy Office

Distribution of Project Funds
BPA Division of Fish & Wildlife
FY 1986

Budget (millions \$)

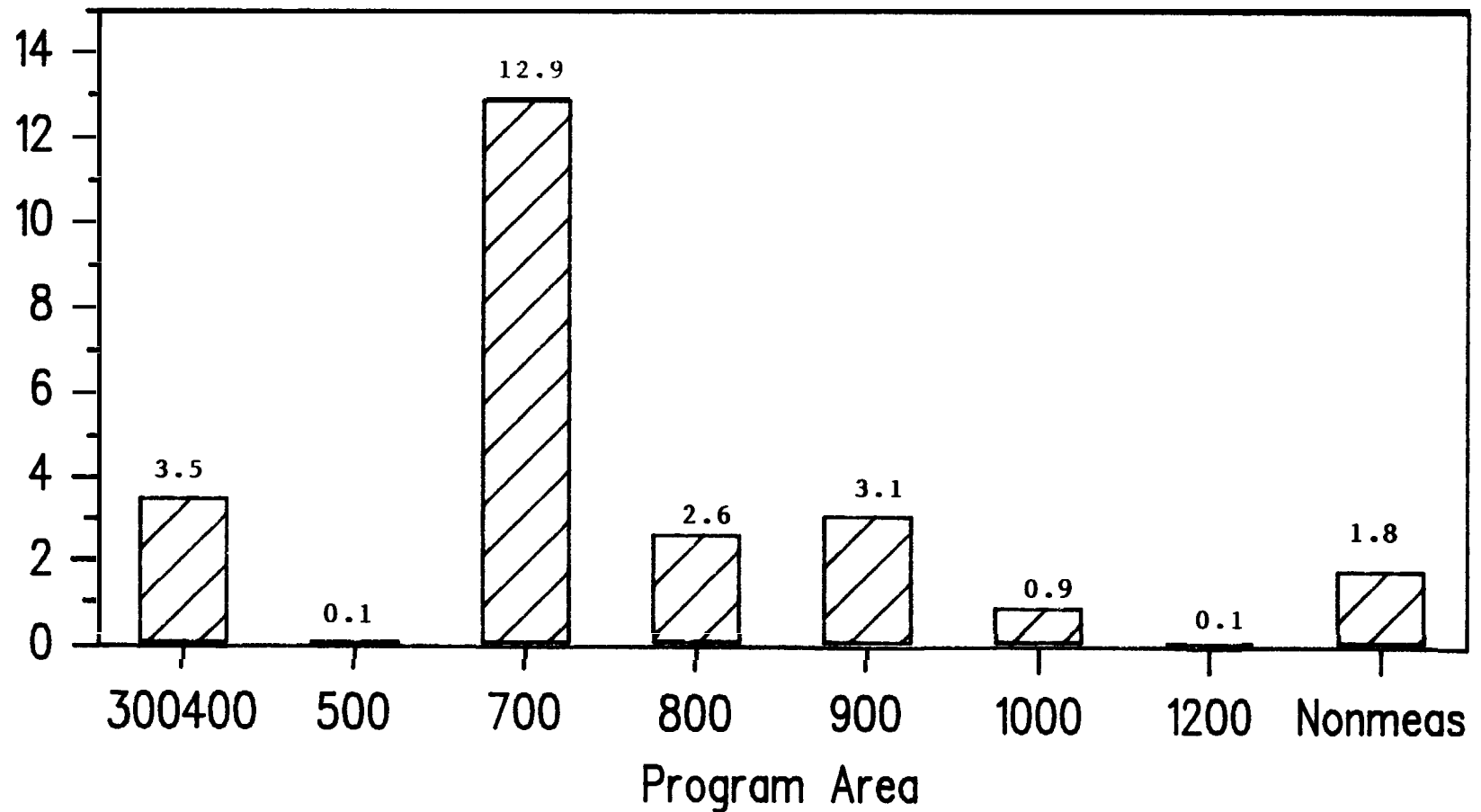
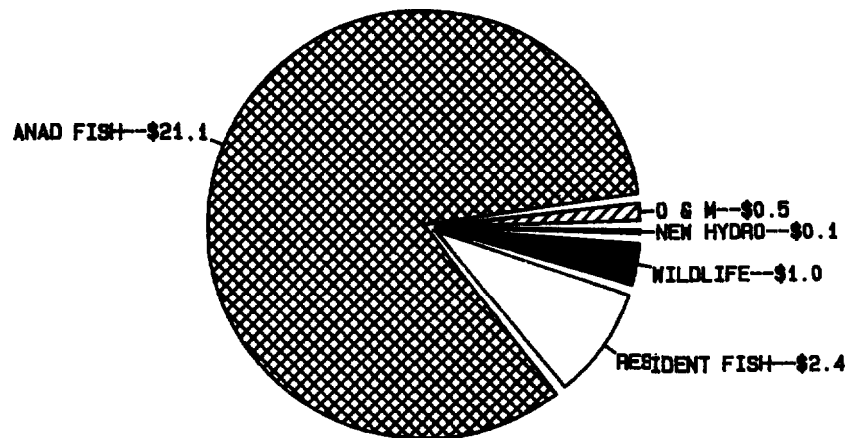


FIGURE 8

**DISTRIBUTION OF FY 1986 PROJECT FUNDS
BY BUDGET AREA
IN DOLLARS**



(MILLIONS \$)

BY PERCENT

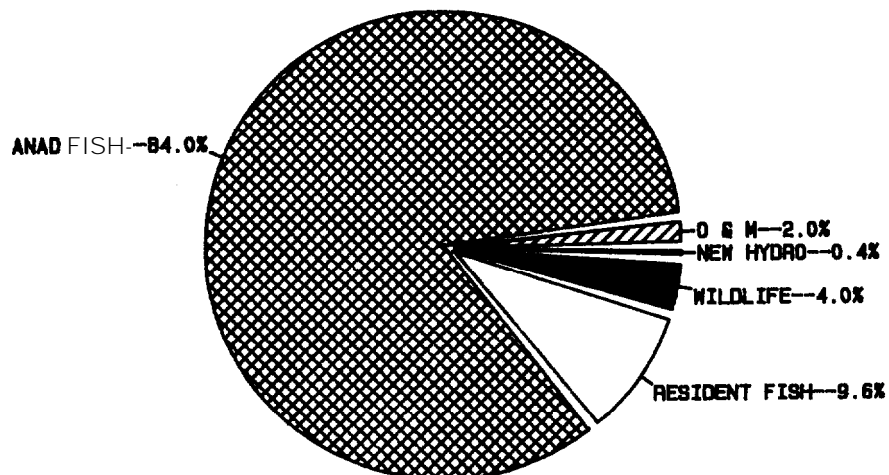
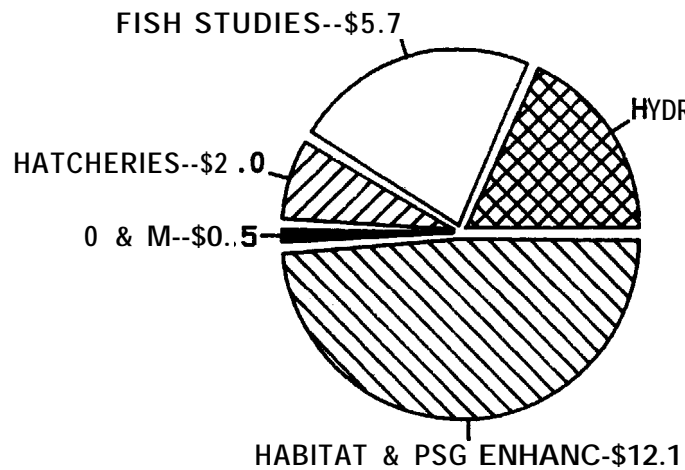
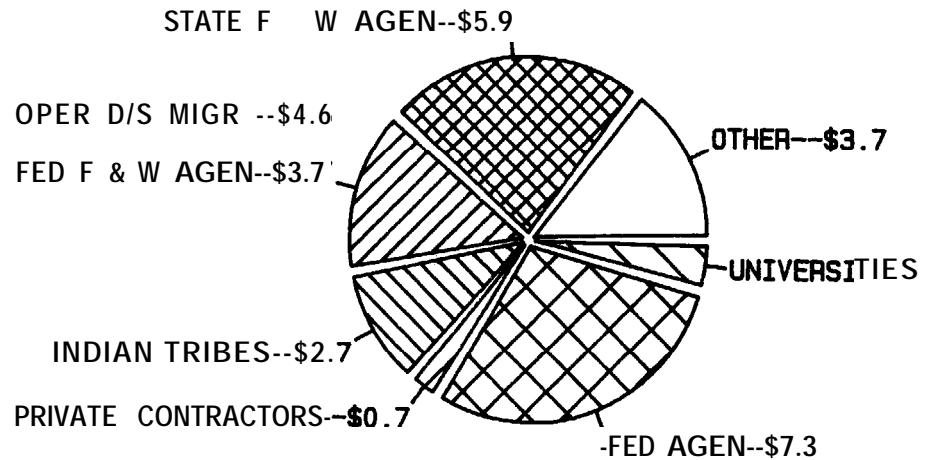


FIGURE 9

OF FY 1986 FISH AND WILDLIFE PROJECT FUNDS (millions \$)



BY FUNCTIONAL AREA



BY CONTRACTOR ORGANIZATION

FISH AND WILDLIFE PUBLICATIONS

<u>Publication No.</u> (DOE/BP-)	<u>TITLE - (Project No.)</u>
601	1985 Fish and Wildlife Annual Project Summary
738	1986 Annual Project Summary
10068-1	A Biological and Physical Inventory of Clear Creek, Orofino Creek and the Potlatch River, Tributaries of the Clearwater River, Idaho, Final Report: 1985, (82-1)
33825-1	A Biological and Physical Inventory of the Streams within the Nez Perce Reservation, Final Report: 1985, (82-1)
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16726-2	Abundance, Behavior, and Habitat Utilization by Coho Salmon and Steelhead Trout in Trout Creek, Oregon, as Influenced by Habitat Enhancement Annual Report 1985, (84-11)
381	Abundance and Distribution of Northern Squawfish and Walleye in John Day Reservoir and Tailrace, Annual Report: 1982, (82-12)
35097-1	Abundance and Distribution of Walleye, Northern Squawfish and Smallmouth Bass in John Day Reservoir and Tailrace, Annual Report: 1983, (82-12)
35097-2	Abundance and Distribution of Walleye, Northern Squawfish and Smallmouth Bass in John Day Reservoir and Tailrace, Annual Report: 1984, (82-12)
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11797-3	Adult Fishway Inspections on the Columbia and Snake Rivers, Annual Report: 1984, (80-1)
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348 Biological Feasibility of a New Fish Tagging System, Annual Report: 1983, (83-319)'

11982-1 Biological Feasibility of a New Fish Tagging System, Annual Report: 1984, (83-319)

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18952-1 Columbia River White Sturgeon -Early Life History and Genetics Study. Final Report: 1985, (83-316)

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365 Compendium of Low-Cost Pacific Salmon and Steelhead Trout Production Facilities and Practices in the Pacific Northwest, Final Report: 1984, (83-353)

18008-1 Comprehensive Plan for Rehabilitation of Anadromous Fish Stocks in the Umatilla River Basin, (84-10)

225 Cumulative Effects of Microhydro Development on the Fisheries of the Swan River Drainage [Montana], First Annual Report: 1983, (82-19)

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441 Issue Backgrounder: Downstream Fish Migration - Improving the Odds
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249 Issue Backgrounder: Enhancing Our Fish and Wildlife Resources,
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- 246 Natural Propagation and Habitat Improvement: Volume IIA -Washington [Tumwater Falls and Dryden Dam Fish Passage], Final Report: 1983, (83-446)
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- 247 Natural Propagation and Habitat Improvement: Volume IIB - Washington [Similkameen River], Final Report: 1983, (83-477)
- 11902-L Natural Propagation and Habitat Improvement Washington: Enloe Dam Fish Passage Project Annual Report: 1984., (83-477)
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